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(54) Title: METHOD FOR ESTABLISHING A COMMUNICATION CONNECTION BETWEEN TWO OR MORE USERS VIA A NETWORK OF INTERCONNECTED COMPUTERS

(57) Abstract

A method for establishing a communication link between two or more users via the Internet, and, more specifically, a web-server based real-time data conferencing system, is disclosed. Under the presently preferred embodiment, a user uses an application (such as a web browser) to retrieve and view a web page. On the web page (or the like), a clickable icon or hyperlink is provided to call another user or service. At this time, there is no custom software on the user/caller side. However, the hyperlink may activate a subprogram to gather certain types of information of interest to pass to the server to tailor a response; it may also perform any other tasks as necessary. The server (call-center software), upon receiving the request to establish a connection, determines an agent to receive the call and activate any related software thereof. In the presently preferred embodiment, the call center processes the request and activates an application on the agent's machine to establish the connection. More specifically, it causes the agent's web browser to be launched if it is not already launched and it provides a customized web page to the caller if appropriate. In the next step, now having established a connection between the caller and an agent, a collaboration software can be activated to allow better communication between the two parties. This collaboration software can be a chat program, a white board program, Internet phone, or any other communication software. Under this paradigm, the caller does not need any software to establish a connection with an agent who has the necessary software for receiving and processing the call.

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METHOD FOR ESTABLISHING A COMMUNICATION CONNECTION BETWEEN TWO OR MORE USERS VIA A NETWORK OF INTERCONNECTED COMPUTERS

FIELD OF INVENTION

The present invention relates generally to methods for establishing a communication channel between two or more users, and, in particular, call center methods for establishing a real-time communication channel between one or more users to a central processing center.

BACKGROUND

Under the concepts and software applications of the prior art, two users wishing to communicate over the internet (or any other communication link) would have to arrange a meeting time and an agreed upon mode of communication, or that one party would have to always wait for the other party to call. These models are inefficient in that time has to be spent in arranging the meetings and that they do not allow spontaneous calling of another user over the communication links.

In another real model, the call center model, customers call a typically toll free number for service or inquiry on a given product or service. For example, a customer may call a toll-free number for an insurance company to inquire about an insurance quote, and the customer will then be routed to an available service representative. If no representative is available, the customer will be placed on hold for the next available representative. Once a representative becomes available, the customer is connected to the representative. This real life model is an efficient model based on the telephone network. However, with the advent of the internet, the telephone network has become an out-of-date model.

It would be desirable to have an internet based call center model for handling calls from a number of customers "calling" from their computer terminals or a telephone equivalent call from one user to another user through the internet.

SUMMARY OF THE INVENTION

Briefly, the presently preferred embodiment of the present invention provides a method for establishing a communication link between two or more users via the internet, and, more specifically, a web-server based real-time data conferencing system. Under the presently preferred embodiment, a user uses an application (such as a web browser) to retrieve and view a web page. On the web page (or the like), a clickable icon or hyperlink is provided to call another user or service. At this time, there is no custom software on the user/caller side. However, the hyperlink may activate a subprogram to gather certain types of information of interest to pass to the server to tailor a response; it may also perform any other tasks as necessary. The server (call-center software), upon receiving the request to establish a connection, determines an agent to receive the call and activate any related software thereof. In the presently preferred embodiment, the call center processes the request and activates an application on the agent's machine to establish the connection. More specifically, it causes the agent's web browser to be launched if it is not already launched and it provides a customized web

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page to the caller if appropriate. In the next step, now having established a connection between the caller and an agent, a collaboration software can be activated to allow better communication between the two parties. This collaboration software can be a chat program, a white board program, internet phone, or any other โกษาตรว ใหม่ติยง 5 สมอาณา ค่ะ หมาอุราโมกั communication software.

Under this paradigm, the caller does not need any software to establish a connection with an agent who has the necessary software for receiving and processing the call. This paradigm is particular helpful in service and/or sales types of activities where a customer inquiry can be answered in a chat session over the internet without requiring the customer to have any software to begin with.

The caller can also download the call-center supported software on its machine. As long as the software is running at a connection that can be determined and be reached by the call-center software, anyone can request a connection with this particular caller and be connected to this particular caller. Thus, this model is very much like the ubiquitous telephone at every household. As long as the phone is connected and not be offhooked, another party can call in and be connected when answered. Even if one party is not available at a particular time, the calling party can be recorded and be notified to the receiving party when the receiving party or connecting by the call center 26 to a guestiliser 15 comes on-line.

These and other features and advantages of the present invention will become well understood upon examining the figures and reading the following detailed description of the invention

Fig. 1 illustrates a diagram showing the collaborating systems and the various components thereof.

Fig. 2 illustrates a block diagram of a web server interface of the preferred embodiment.

Figs. 3a and 3b illustrates examples of web server interfaces.

Fig. 4 illustrates a server architecture of an embodiment.

Fig. 5 illustrates a block diagram of data collaboration services.

Fig. 6 illustrates a block diagram of a session manager.

Fig. 7 illustrates a block diagram of an intelligent routing server.

Fig. 8 illustrates a block diagram of a web client manager. sa web page es provided and associated with the

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to Fig. 1, a block diagram divided into three sections, a visitor section 10, a server section 12, 30 and a member section (or registered section) 14 is provided to illustrates the three collaborating systems and the various components provided therein. The visitor section 10 can be considered as the computer system being used by a guest (or visitor or customer or user). In the visitor section 10, a guest/user activates an application of the preferred embodiment through a regular web page 16 or activates a button to activate the application via a 35 browser 18. Note that the browser here can be a commercially available browsers or it can be custom browser provided specifically for the current task. At the visitor section 10, there can be also a suite of collaboration software applications such as text exchange (chat) program, a whiteboard program, a web page tour program, a web page push program, or an application sharing program. These program or programs can be downloaded real-time from a server upon request. Spraife potentia Bales and proportion of the contract าร ระบางรักษาสมาชิก สำเน็นเรื่อง

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In the server section 12, there may be a customer web server 20 for handling regular web page access. There can also be a dedicated server 22 for the handling the processing steps of the presently preferred embodiment. In this dedicated server 22, there can be a web object request broker for handling the various types of requests. For a call center request, the request is routed to a call center 26 which provides administration of the in-coming calls, for managing the various sessions between a guest/user and a call center agent (registered member), and for tracking accounting related issues such as time and billing. For center types of requests, the call center 26 provides data from a context repository 28 which in turn provides dynamic or static data associated with the request, which is associated with a particular hyperlink. In other words, customized data may be provided to the guest depending on the particular request. The call center 26 interacts with an agent server 30 which manages a number of agents, each performing a pre-programmed task such as configuration verification, virus check, etc. There is also a communication server 34, interacting with a collaboration server 32, for connecting multiple users through the collaboration applications indicated at 31 and 40.

For the member section 14, which are the computer systems for the users being connected to, there may be a registration component 36 for registering guests/users. At this section, there may be one or more call center agents (registered members) for connecting by the call center 26 to a guest/user. Generally speaking, these call center agents are software providing an interface to allow a person to communicate to the guest/user via the collaborative applications 40.

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Fig. 2 illustrates the interface scheme of the web object request broker 24 of Fig. 1. Here, the server dispatcher 50 connects to the call center (Fig. 1, 26) on one side and connects to an object request broker on the other side 52. The object request broker 52 communicates to the object request broker 54 of a web server interface 56 for communication with web servers 58. The web server may any one of the commercially available servers from a number of sources. In essence, this figure illustrates the manner for the call center (Fig. 1, 26) to communicate with the web servers.

Figs. 3a and 3b illustrates two examples of different web server interfaces of Fig. 2. Fig. 3a illustrates the use of an NS Enterprise Server 60 interfacing with an object request broker (ORB)-based web application interface 62 to the server dispatcher 64 (Fig. 2, 50). Fig. 3b illustrates an Oracle Web Server 66 interfacing with an ORB-based cartridge interface 68 to the server dispatcher 70 (Fig. 2, 50).

In operation, certain buttons on a web page are provided and associated with the application software of the preferred embodiment. The web page may be part of a secured web site requiring a password for access. The activation process may also be provided through the activation of an application on the user's machine. Upon activation, a communication link to the internet is provided to carry out the preferred method of the present invention. More specifically, the server of the preferred method of the present invention (server section of Fig. 1) takes over and sends a message to one or more registered members (or call center agents) on the receiving side (member section of Fig. 1) to signal that there is a guesti/user waiting to be connected. Depending on the mode of operation, a registered member may decide to answer the signal or refuse the signal. In this manner, this is a model like a telephone which the receiving person may decide to answer the call or refuse the call. In a call center model, the registered member may not have a choice and may have to answer the call. At the time of the connection, the system may offer the choices for a phone connection (through internet phone or regular phone) or provide information from a database regarding the user/guest. A live data connection between the user/guest and the registered member may be set up through the use of collaboration

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software such as a chat program, a white board; web page navigation, or perhaps push technology programs. At this time, there is a real-time conference. Optionally, the system may allow other guests/users or registered members to join this conference. Note that call center agents or registered members are users that have registered with the system as being available for connection to other guests/users or registered members and therefore may be "called" by other people. A guest/user without application software of the preferred embodiment can not be called by others and may only call registered members. The above described method provides the capability for real-time connection to a database where information regarding a guest/user may be readily retrieved and shown to the registered member prior to connecting to the guest/user. Additionally, a guest/user may request a specific registered member for connection rather than being randomly assigned.

Other features of the preferred embodiment include readily connection to the telephone network where the guest/user may be directly connected to the fegistered member for a live conversation. This may be achieved through the use of a second modem on the user side or the registered members side for direct dialling to the other side. Further note that a user in one embodiment need not to have any specialized software on its machine. In an alternative embodiment, the guest/user may download an agent for receiving and identifying 15 princoming or outgoing calls signs and a substantial formula in the second control of the second control of

With the use of a database, a number of transactions can be recorded and automated. For example, a registered member may set a reminder in the database for reminding the registered member with regard to a particular transaction over an particular item of interest with a particular user/guest. This reminder may be set in the transaction database or the database for the item of interest. In this manner, potential sales leads can be 20 grantracked and followed up. american Servician Central Control of Control of the Astronomy

The above described preferred embodiment and method can be further customized to tailor to specific applications. For example, in one application (active meeting), the application can be tailored to be a specific conferencing application where guests and/or registered member's select a designated registered member as the agreed meeting place. A real-time interactive chat session can be provided such that everyone can interact. In 25 another application (active connections), the present invention can be tailored to be a commerce application where guests/users visiting can be directly connected to a randomly-selected, a user-requested, or a best-fit service representative (registered member). In the best-fit situation, the guest/user may have answered to a number of questions generally describing the request or problem. Based on this information, an intelligent database subsystem carrexamine the answers and determine the most qualified representative for this particular guest/user. In the user-requested service representative situation, a list of service representative is provided to the guest/user.) Upon selecting a particular service representative, the guest/user is connected to the particular service representative via the TCP/IP address of the service representative. In this application, if appropriate and available, user information, can be readily retrieved from the database and provided to the registered member as background information. Furthermore, guest/user may be allowed access to a number of databases, including a scheduling database for scheduling with a particular service representative (registered member) or to retrieve and enter information into a database. In yet another application, a registered member can call up a guest/user, through the use of an agent at the user/guest side, and interact with the guest/user.

Fig. 4 illustrates one server architecture implementation for the preferred embodiment. Here, the interface to the web is through a web server 80. The web server 80 interacts with a number of components of the preferred embodiment, including an active meeting component 82, any custom applications 84, or OEM

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applications 86. A session manger and web client manager 88 interfaces and interacts on one side with active meeting, custom applications, and OEM applications, and interfaces and interacts with an intelligent routing component 90, a managed messaging component 92, a resource scheduling component 94, and an enterprise integration component 96. All of these components interacts with real-time collaboration services 98 and telephony services 100 which rest on an operation system and database 102.

Referring to Fig. 5, further describing data collaboration services of the preferred embodiment, internet protocol based data and servers 110 interfaces with a multi-point communication service 112 for interfacing a number of guest/users and registered members. Conference control 114 is put in place to properly route and control access to various services, including chat programs, presentation programs, document review programs, web tour programs, interactive forms programs, viewer programs, application sharing programs, netmeeting program, desktop sharing programs, etc., all of which, in one aspect, may access data from the data collaboration server 116 and in another aspect access CTI servers.

Fig. 6 illustrates the session manager, which can be part of the call center or agent server of Fig. 1.

Here, the session manager interfaces with a master collaboration clustering server 122 and manages a billing and accounting module 124 and database 125, a directory service module 126 which interacts with a database 121 and an active directory service 127, an object storage module 128 working with an enterprise data depository 129, a security module 130 providing security and interfacing with public key infrastructure 131, and an archive module 132 working with a database 133 and an active directory service 134.

In routing the guests/users, referring to Fig. 7, an intelligent routing server 140 manages call queues 142, a call handler 148, and third party ACD 154. The call handler 148 interacts with community servers 144 and distributed ACD 146. The intelligent routing server 140 also provides managed messaging service 156.

Fig. 8 illustrates a web client manager model where a web client manager 160 manages a multi-point data manager 162 (described above), automatic download and version control subsystem 164, a session manager 166, a token manager 168, and a phone manager 170. The multi-point data manager 162 manages the data cache for each session 172 and 174. The automatic download and version control subsystem control the agents residing on the computers of guests/users and registered users. The session manager 166 manages the sessions. The phone manager 170 manages the phone connections.

Appendix A further provides technical detail with respect to the embodiments of the present invention.

Appendix B further describes the features of the preferred embodiments. Both appendices are part of the embodiments of the present invention.

Although the present invention has been described in terms of specific embodiments it is anticipated that alterations and modifications thereof will no doubt become apparent to those skilled in the art. It is therefore intended that the following claims be interpreted as covering all such alterations and modifications as fall within the true spirit and scope of the invention.

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APPENDIX A

Call Center Design Terms and definition: Member Logar Neury is when iter The guy who have registered in Call Center, have a account and can access resource on Call Visitor User who click the button on the web page that our button creator created. Call Center Server The software server make member and visitor negotiate together. Call Center Client The response layer to Call Center in client-site: Web Server Interface Interface that web server and Call Center cooperator together. Resource Manager Use a DB server as back support, provide several member, visitor, page and other resource service to Call Center. In a remain between objects Session Manager NO FIREACE Manage the session like ARM of T120. Drugge Chimerage: Note an affect will interpret string send from a characteristic mere to determine an order and CC Environment Diagrams that one delivery active provide of and active and active to the control of the control Web Server and cow of Inductions of His actions of the To Jo a course down towal beau process game value it if Literature acomo ITI discreti A Sa วังระสายได้ เลยเลยที่ "סור ענו פון צורונה אי פכנה Context Repository Call Center Client 5.th 1. Education of the Life of Agent Server เลยสมาชาติเม T120 Protocol red taused (so c. Lutvas), survent in the responsibility CC Internal Structure Diagram: unite, and and the en la secución frace i la reconstrucción especial de la filla de la companya del companya del companya de la co

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Web Inte	erface will reponse the requirement of Call Center Manager to dynamically create	page
end to the web se	erver, The web server then will send this HTML or ASP page to user as a result.	F-8-
So the fi	nction will be implement in Web Interface is:	
	ate string stream sand from web server to a C or C++ object used by Call Center	Managa
2. Dynam	nicly create HTML or ASP page to web server.	Manage
For detail	see Chapter "Format of string stream send from web server"	
	l, see Chapter "Format of string stream send from web server" Chapter "Reply Page templates"	
	Chapter "Data structure used in Web Interface"	
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	Manager will save and provide the following information:	Wilder To
	er Information.	\$.0-a.
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	Manager will provide service to call center to:	
1. Verify	a validate user	
2 Check	the member's accounting, status	\$ 4.7 · ·
3 Check	the member's priority, which resource(page, member) can be accessed.	
	ling to a simple query, return a result to call center.	
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Page Information format. Field Information format.

Visitor Information format.

Agent Protocol:

Provide a private protocol between Call Center and the Call Center Client.

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Use the senddata, OnDataIndication service provide by Agent Server, connect with call center client, Let member to see how many visitor is online, modify the profile, give administrator message, run session, terminal session, Set current status. Query current accounting, and download new session app.

Agent Server Interface:

Provide a simple connect function. Under Construction....

Session Manager:

Provide session service, and manage session.

The service provide to Call Center:

CreateSession

LeaveSession of the contract of isolated to be the state of the contract of th

QuerySession

Under construction:

Chapter 1: Web Interface. felilio up see result of the company of graps another out little for this largery briefs course frog to 4

Section 1: Format of String Stream Send From Web Server

The string stream send from web server is the following styler:

URL + parameter1 + parameter2 +...

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http://www.stellar.com/www/tom0.asp, T= R. user=tom., address=202.47.133.196.

password=abcde

we assume that the first parameter is the message type, there are the following message type:

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T=R, this is a register message.

T=V, this is a visitor message.

T=L, this is a log in message.

T=P, this is a pay message.

For T=R, this is a register message.

There are the following Parameters

address, required

city, required

state, required

zip code, required that doll in the particular could be a suit to

company,

department

first name, required

middle name;soft gadgress sparte; soft. last name, required ബെമ കൂല്സ് എന്

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phone number 1.

fax number,

[page id0

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operator

fld value]...]...]

For T=V, that is a visitor message.

Parameter is the following:

Page: the URL of this page.

Address: the user TCP/IP address

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filed name=field value,

[field name=field value, [1] have selected before I for start

For T=L, it is a member log in message.

ID is the user id create by resource manager,
                 PASSWORD is the password given when register, compare with the password provide
                 by resource manager
                                                                                Ar. Ash
        For T=P, it is a expire member want to pay money to by time.
                 ID is the user id.
                 PASSWORD is the password.
                                                            galesen bill 30
                 Create card # or phone bill, under construction mac
Section 2: Reply Page Templates
      There are 10 types of page template used to dynamically create home page to reply-web server.
      1.At lease one required field is empty.
                                                                              21 17 27 . 3.
                                                                                  enga (1 jisab)
      2. Pay money by credit card or by phone page, ... (under construction)
      3. Registed successfully and give user a password, a user id. Let user down load the client part of
      stellar server, give user a licence agreement.
      4. Login successful page, will or will not show statistic information.

5. Expired page, when a user use out of his/her time resource; and try to log-in in 30 days, this page
      will be given to user indicate that user is rup out of time, in this page, user can pay for the time?
      6. Unauthorized user, this situation may be by user mis-typing the password, can give user a chance to retry or registry a new member.
      to retry or registry a new member.
      7. Every body is busy page, this means there is no member is idle, so this page will say, sorry to user
      8. wrong create card# wrong page, this means the user mis-type the credit card number. Will ask user
      retype the register page.
      9. Chat page parameters is under construction....
                                                            ें हैं। संबंध एक सब्द्रोंड का स्वयुक्त
           Parameters:
                                                                 ्रव्युवस्थवता राजा तीम महास्थानिक विकास
           1.INT userId, indicate the user id
                                                                  is the log in pessage.
           2.CHAR* server TCP/IP address.
                                                                     The form to a pay message.
                                                             िया होते. विकास सामन्त्रहोष्ट्रस्य मान्क्ष्यपुरुत
      10. white board page. parameters is under construction.
           Parameters:
                                                                Dealliger Land Land
           1. INT userId, indicate the user id.
                                                                    Datasylvi har
           2. CHAR* server TCP/IP address.
                                                                   ರಿತರ್ಣವರಿಗೆ ಎಂ. ಎ.ಎ.
Section 3: Data structure Used by Web Interface above to
//Operator use in filter
                                                                       parter no
typedef enum
                                                                      gasarransi.
                                                              bariuper sens . and
        CCOPT GT,
                                            //for string, number, floatesmen acquire
        CCOPT EQ.
                                            //for string, number float: . action 23%
        CCOPT LT.
                                            //for string, number, float
        CCOPT GET.
                                            //for string, number, float while have
        CCOPT LET,
                                            //for string, number, floate: feet in the
        CCOPT CONTAINS
                                            //for string only men that the street
}CCOperator;
                                                                 of this we come
                                                                     , esd month inst
//access field define item
                                                                       1.64 $3370
typedef struct tagCCAccessFieldDefinitionItem
                                                                    ្យាល់ ស្ត្រាំងព្
                                                                 UINT field:
        CCOperator operation;
                                                               egs របស់ការសំណាំ ប្រធានក្រាស់ នៅ
        BYTE value[MAX_FIELD_VALUE_LEN];
CCAccessFieldDefinitionItem;
                                                              ากสมพอบรณิ แสมุ รากระสมสมสม
//access resource
                                                             ing a stiff dad object.
typedef struct tagCCAccessableResourceItem
                                                        was book and in the section of the
```

10 idiria en en en en en en en en { BYTE url[MAX URL LEN]: Burn Caller a there in the UINT count: CCAccessFieldDefinitionItem* access_field_definition_list; eminon_nsq laoth a militiga alegonoch ist eile }CCAccessableResourceItem; //Access resource table typedef struct tagCCAccessableResourceList -#101015L Saring Co. UINT count; amilia to CCAccessableResourceItem* accessable_resource_list; }CCAccessableResourceList; typedef struct tagCCMemberInfo Faved Date Januarist. ULONG id; From amoint gabaccounting information with BYTE password[MAX_PASSWORD] LENGuinging and Seven Boy His Coll Seven Description of the Coll Sev user is eval of time resource. //company address BYTE address[MAX; ADDRESS, LEN]; toou notive a tipy of lifter consequence galance and BYTE city[MAX_CITY_LEN]; and instrument some transfer of the city BYTE state[MAX_STATE_LEN]; ara for a come usage table. BYTE company name[MAX COMPANY NAME LEN]; trucco Asys and the BYTE department_name[MAX_DEPARTMENT_NAME_LEN]; for non it for didic aftermission Formation //person name and title BYTE first_name[MAX_MIDDLE_NAME_LEN]; BYTE middle_name[MAX_LASTUNAME (LEN]; to to tall big to book as a visual. BYTE last_name[MAX_FIRST_NAME_LEN]; BYTE title[MAX_TITLE_LEN]; //person address, include email address, phone number ect. BYTE email_address0[MAX_EMAIL_ADDRESS_LEN]; BYTE email_address [MAX_EMAIL_ADDRESS_LEN]; BYTE phone_number0[MAX_PHONE_NUMBER_LEN]; BYTE phone_number [MAX_PHONE_NUMBER_LEN]; BYTE fax_number[MAX_PHONE_NUMBER_LEN]; Paeiromean airs in sein coebie dit //default app session would automatic lanuch up. CCSessionType default_lanuchup_session; าย โปม (Palati แม้ และเหมื่อมู่ตระการเยาะ การการ (การการการ //access right..., special which URL the listen is interest in, and //which field the listen is interest in, and the value scope. //... CCAccessableResourceList accessable_resource_list; //current status.

CCListenerRunTimeStatus run_status; ... on divide en bilitaria de la reconstitue en constitue en accidente

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di Cilirwa le emanatasa No. administra na anciasa da mini cadi ma

CCListenerStatus status;

//status when run.

}CCMemberInfo;

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Chapter 2: Resource Manager

Section 1: Member Profile Format.

See CCMemberInfo.

the government of a significant design of the second Section 2: Accounting information.

Format:

Field Name	Field Type	Field Len(for string)		
UserID	ULONG	TO A TOP TO THE TOP TO		
Login time	datetime			-
Log out time	datetime		* . ;	_
Field Name	Field Type	Field Len(for string)	. ≜⊊ kei	~ >
UserID	ULONG	- 6/.		
PayedMoney	\$	•		
PayedDate	datetime	a na stawa °.	\$ 1 3000F	ibit
PayedType	int			;

When Call Center Send Accounting Information?

Call Center will Call SaveAccountingInfo when a user log out, or Call Center find that user is out of time resource.

Accounting information will be quire when user want or call center it self theck the resource, User will check how many times remain, how much money remain in account, user will ask for a time usage table. DALE WHO COOPINING LOSTY? CODE TEM

Interfaces provide to Call Center.

CCError SaveAccountingInfo(INT userId, ULONG loginTime, ULONG logoutTime); CCError GetRemainTime(INT userId; ULONG timeRemain); 109112000 1.1

Section 3: Statistic Information Formation

Under construction

IF this manifolds MIDOLE NAME LEND Section 4: Page and Field Information Format: I KAM Jones Tibular

	CHI Latiname(MAXIFIRST NAME) EVE	11
Fld Name	Fld Type Fld Len(for string)	.2
Id	number	
URL	The second restrict and KAMS, probe that the gains of the second selected for the selected f	
Fld Name	Fld Type G. PRANTIGE Fld Len (for string) this a line of the	
ld	number (I. Charles of Expense Ocharlos admires are all all all	
FldName	string CASU JEEN A EMAX FIELD NAME LENGER Number (MBU JEFOMUN SHORT KAMPANT AND BY	
FldType	number (WE) TEPMUN SNORY KAMPOTALTING BY YE	

When Call Center use this information?

When a vistor click a button, the button will give server information, Call Center will get this information through ORB or not, then first, Call center will check if the page is registed by call resource manager function: HasThisUrl, if Resource Manager report that it is a valid URL, get it ID, and try to find a listener, will call Is There Member Listen This Page that time, if not, return a page indicate user wait an retry,

Section 5: Visitor Information Format. And College of the College

Under Contruction.

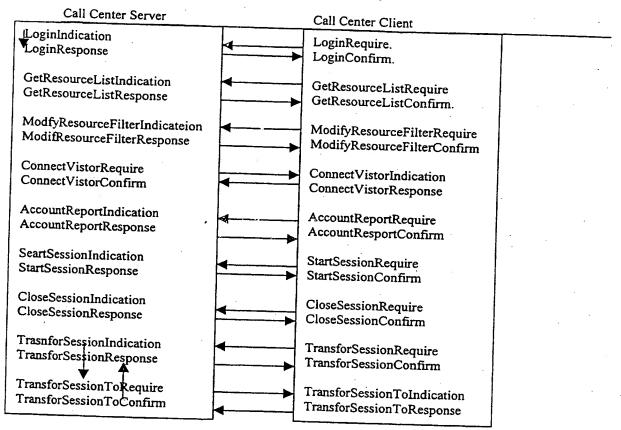
Chapter 3: Call Center protocol

0.Issues

When the call center client launch? launch when windows/winnt startup? I assume the call center client has launch up and waitting the call center server awake it.

1.primitives

tesilOrutoso II. I After register a sap for this member, Call Center will create a sap on agent server, and through this sap, Call Center server will negotiate with the Call Center Client. If Call Center Client Send a Log out packet, Call Center Server will unregister this sap.



Chapter 4: Session Manager

1.primitives.

CreateSession CloseSession GetSession TrasnferSession

Cell or The

Chapter 6: Call Center Client

Call Center Client is the client side program that is in the layer with Call Center Server,

A Company of Statement of the second State of the state And the state of the state of the state of a suisiem indige field in the other t المطور والمستسلسل والأرواق والمراوح والمراوع والمراوع والمراوع والمراوع and to be a first to self field of the second of the secon en upage no asser all nor see and Consectificationadories Samedan Krounest Anna Keahouse Correct of the Confuence noisseibui, ing. Francis A AccountReportRequire Sandas Autor : Auto . 18.7 AssemitRespondeding) Geerlanderlanderlan , Stal Lerd mitgeponsc StartSeastonKequire a. Lastballacie (Lateil) Stanford Charles Renotes Coordinate of the spanse watere being Beat I felrobsubalicação de con-दर्भ स्वतः अद्भाव स्टब्स्ट के स्वतः स्वतः । इत्यास्य स्वतः स्वतः स्वतः स्वतः । ອອກອາຊອຸສຸສົກເຊີ ທີ່ໄດ້ການເຖິ rnil Clenesceroleast Lamin springs for row scribt again The state of the s halle to the real of the a separation as experiently

Chipter 4:Session Manager

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Chapter 5: Call Center Object

Call Center object will be given formatted data from the web interface; query and retrieve data from resource manager, setup connection with Call Center Client, and manager session. Response member's Require.

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Fig. 1. See March 2018 (1992) 1993. The second of the seco

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##Community Contraction register.

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         _ 303(FG) 6
      Stellar server stack
                              Pro.iect
      WEB server interface impletement file
      WEBIO. CPP
      Copyright (c) 1997 Stellar Computing Corp.
                                                The following the second transfer is
  Modifier:
         Date:
         Reason:
 #include "WEBIO.H"
#include "web.h"
 In web.h. there are 2 prototype:
typedef void (*funcWebCallBack)(char* webData. ULONG userDefine):
WEBRegisterCallBack(funcWebCall Back, ULONG userDefine):
 //Purpose:Web call it to notify the web interface some data need to precess.
 //Parameters:
 //
//
    webData:
     webData: webData string. must terminate by a zero char.
userDefine: define by user. web will simplely copy this data to this parameter valued when register.
 11
 //Create Date: 06/24/97
//Code Creater: Tom.Wang
 //Modify Record:
         Modifier:
 11
         Reason:
 //
         Date:
         Detail:
 void WebCallBack(LPCSTR webData, ULONG userDefine)
     ASSERT(IsGoodReadPtr(webData, 1)):
     ASSERT(IsGoodReadPtr(userDefine. sizeof(CWebInterface))):
     ((CWebInterface*)userDefine)->InterpretWebStream(webData):
 //Create Date: 06/24/97
//Code Creater: Tom.Wang
 //Purpose:Construct a web interface object.
 //Parameters:
           the func given by call center, to get formated data from web interface
    func:
 //Modify Record:
        Modifier:
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        Date:
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        Reason:
11
        Detail:
CWebInterface::CWebInterface(funcCCCallBack func)
    ASSERT(IsGoodCodePtr(func)):
    m_CCCallBack = func:
    WEBRegisterCallBack(WebCallBack, this):
}
//Purpose:
   Interpret web stream. format the stream and call call back func to give
    the formated data to call center.
//Parameters:
   webData: a data send from web server. the detail mean see callcent.doc.
       chapter: web server interface.
//Create Date: 06/24/97
//Code Creater: Tom.Wang
//Modify Record:
       Modifier:
                                     1
```

```
// Date:
// Reason:
// Detail:
//
void CWebInterface::InterpretWebStream(LPCSTR webData)
{
    CCWEBRequireTvpe reqTvpe:
    CHAR* pData = new CHAR[30000]://should modify.
    //<TBD>
    (*m_CCCCallBack)(reqType. pData):
}
```

A-12

```
17
    Stellar server stack Project
WEB SERVER INTERFACE WITH CALL CENTER SERVER
                                                                             nstscall A<mark>l</mark>lina mathicises in
 /* WEBIO.H
 /* Copyright (c) 1997 Stellar Computing Corp.
/* All rights reserved
#ifndef WEBIO H
#define __WEBIO_H_
class CWebInterface
oublic:
    CWebInterface(funcCCCallBack func):
-CWebInterface():
<TBD>
    void InterpretWebStream(LPCSTR webData);
UpsendPage(CCUpsendPageType type. BYTE* data);
private:
funcCCCallBack m_CCCallBack:
}:/*CWebInterface*/
#endif/*__WEBIO_H_*/
```

```
Stellar Server Stack
       resource managerment head file
   /*
/*
/*
       RESMGR.H
       Copyright (c) 1997 Stellar Computing Corp.
       All rights reserved
                                                   120 ...
  //Create Date: 06/18/97
//Code Writer: Tom, Wang
                                                                                                                  noise ê
                                                                                                                  gas sect
  //Modify Record:
           Modifier:
  11
           Date:
           Reason:
  #ifndef
             RESMGR H
  #ITINGET KESMGK H
#define __RESMGR_H_
                                                                                                                                    20
 class CResourceManager
                                                                                                      ระุศสา ซะวามกระหวับ โด
 oublic:
      CResourceManager():
      -CResourceManager():
                                                                                                                  19 37 mg
pm s. 83
 //accounting.
      CCError SaveAccountingTimeInfo(CCMemberID memberId. CCTime loginTime.
     CCError GetRemainTime(CCMemberID memberId. ULONG* timeRemain): CCError WriteAccountingReport(INT memberId. LPCSTR fileName):
     CCError RegisterMember(CCMemberInfo* pMemberInfo):
CCError UbdateMemberInfo(CCMemberInfo* pMemberInfo):
CCError IsThisVistorMatchAnvMember(CCVistor* pVistor. INT* pCount. CCMemberID* pId):
CCError MemberLogin(CCLogin* pData):
                                                                                                    (anagementation All into
     CCError GetMemberDetailInfo(CCMemberID memberId. CCMemberInfo* pMemberInfo):
 //help functions.
                                                                                                       nspa, use indicated 100 to
     CCError GetMemberStatus(INT memberId):
//page.
     CCError IsPageRegistered(CCVisitor* pVisitorInfo):
//page and member
     CCError CanThisMemberUseThePage(CCMemberID memberId. CCPageID pageID):
CCError MembersCanAccessThisPage(CCPageID pageID. CCMemberID* pMemberId):
private:
}:
#endif/*__RESMGR_H_*/
                                                                                                                                 10000
```

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าสถาสาย (ส. พ.ศ.สติ)

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```
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                      Stellar Server Stack Project
                      resource managerment implement file
                      RESMGR CPP
                     Copyright (c) 1997 Stellar Computing Corp.
                     All rights reserved
       Modifier:
       11
                                   Date:
       11
                                   Reason:
       #include "comdefs.h"
#include "ccdefs.h"
#include "resmgr.h"
      // constructor of CResourceManager
// <TBD>
      //Parameters:
      //Return:
     //Create Date: 06/25/97
//Code Writer: Tom.Wang
//Modify Record:
                                                                                                                                                                       1977) - The Acceptance of the Louis CHember ID member LC。 CCL are logistioned CCC expenses in the Logistioned CCC expenses in the LCC expenses in the LCCC expenses in the LCCCC expenses in the LCCC expenses in the LCCC expenses in the LCCCC expenses in the LCCCC expenses in the LCCCC expenses in the L
                                 Modifier:
     //
                                 Date:
     //
                                Reason:
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                                Detail:
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   i (numerosa 190 autschi chichte).
    //Parameters:
    //Return:
   //Create Date: 06/25/97
//Code Writer: Tom.Wang
                                                                                                                                                                                                                                                Populari de la Principa de La Contra de Contra
   //Modify Record:
// Modifier:
                                                                                                                                                                                                                                 ur (L. negocja, ud sectrud) čledenia Patrinerski i s
edije i nusigen Glaja Dulaji ud i uddućeniusti
                               Date:
                               Reason:
    //
                               Detail:
   CResourceManager::-CResourceManager()
  //Purpose:
              Save time used information per login/logout into context despotory
   // will used to create report to user and determine if the member is run
   // out of time resource.
               called when member logout and before disconnect.
  //Parameters:
           memberld. a valid member id used to save time resource usage. loginTime. the login Time. logoutTime. the logout Time.
  //Return:
 // CC NOERROR indicate that the time information has saved successfully.
// CC MEMBER INVALIDATE ID indicate that the member id is invalidate.
//Create Date: 06/25/97
 //Code Writer:
                                                        Tom, Wang
 //Modify Record:
                            Modifier:
 11
                            Date:
 11
                             Reason:
 11
                            Detail:
CCError CResourceManager::SaveAccountingTimeInfo(CCMemberID memberId.
              CCTime loginTime.
CCTime logoutTime)
               //<TBD>
              return CC NOERROR:
```

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```
Get the remain time of the member indentified by the memberid.
    //Parameters:
             memberId. a valid member id to be calculated the remain time. timeRemain OUT. if successful. it will contains the remain time of this
                           member.
   //Return:
   // CC NOERROR. the call is success, remain time is in time remain.
// CC MEMBER INVALIDATE ID, the member id not right.
// CC MEMBER EXPIRED, the member is a expired user, and timeRemain will set?
                           to value 0.
   //Create Date: 06/25/97
//Code Writer: Tom.Wang
//Modify Record:
                           Modifier:
                           Date:
                           Reason:
   11
                           Detail:
  CCError CResourceManager::GetRemainTime(CCMemberID memberId, ULONG* timeRemain)
                                                                                                                                          return CC_NOERROR:
 To sail a constant.

To sail a constant and sail and sail
                                                                                                                                                                                                                                 ייים אוניים או אוניים 
  // memberid. a valid member id to be given a accounting report.
              fileName, a valid file name used to out put accounting report.
           CC NOERROR, the call is success, report has writen to file named
             fileName
CC MEMBER INVALIDATE ID, the member id not right.
 //Create Date:
//Code Writer:
                                                  06/25/97
Tom.Wang
  //Modify Record:
                          Modifier:
                                                                                                                                                                                                                       president states and selection of the second second
  11
                          Date:
  11
                          Reason:
                         Detail:
 CCError CResourceManager::WriteAccountingReport(INT memberId, LPCSTR fileName)
             //<TRD>
             return CC NOERROR:
  //member manager
 // Register a new member defined by pMemberInfo.
//Parameter:
//rarameter:
// pMemberInfo. a member info filled by member and checked by call center. I member info filled by member and checked by call center. I member info filled by member and checked by call center.
                         memberld field.
 //Return:
// CC NOERROR indicate that the member has register successful and all inf-
// ormation has saved in context depository, has been assigned a user
// ID and a password to this user.
// CC REGISTER REQUIRED FIELD NOT FIELD indicate some important field not
// filled. call center will call web interface to ask member to retry.
//Create Date: 06/25/97
//Code Writer: Tom.Wang
//Modify Record:
                         Modifier:
11
                         Date:
11
                         Reason.
                         Detail:
CCError CResourceManager::RegisterMember(CCMemberInfo* pMemberInfo)
           //<TRD>
           return CC_NOERROR:
//Purpose:
// Update a exist member information, all field can be modified except me-
          mber id.
//Parameter
          oMemberInfo. a member info filled by user and checked by call center.

Resource manager will save this message, return a ID through the u-
11
11
                       serid field.
//Return:
          CC NOERROR indicate that the member has register successful and all in-
                       formation has save-in context depository, has assign a user ID and
```

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```
// a bassword to this user.
// CC REGISTER REDUIRED FIELD NOT FIELD indicate some himoritant field not field not filled. call center will call web interface to show user to retry rimebook neuman will call be interfaced to show user to retry rimebook neuman will call web interface to show user to retry rimebook neuman will call web interface to show user to retry rimebook neuman will call web interface to show user to retry rimebook neuman will call web interface to show user to retry rimebook neuman will call web interface to show user to retry rimebook neuman will call web interface to show user to retry rimebook neuman will be a shown that the retry retry rimebook neuman will be a shown that the retry rimebook neuman will be a shown that the retry rimebook neuman will be a shown that the retry rimebook neuman will be a shown that the retry rimebook neuman will be a shown that the retry rimebook neuman will be a shown that the retry rimebook neuman will be a shown that the retry rimebook neuman will be a shown that the retry rimebook neuman will be a shown that the retry rimebook neuman neuman will be a shown that the retry rimebook neuman neuma
           //Create Date: 06/25/97
//Code Writer: Tom, Wang
//Modify Record:
                                                                                                                                                                                                                                                                   ירורק בש שי שבלמנוננים החפירות ומדרות באר.
ברורק לי אולל במתניות ההי רפתומה מחקב כז נער
                                                       Modifier:
            11
                                                       Date:
           11
                                                        Reason
           //
                                                                                                                                                                                                                                                                                                                  การครุก รถบากการ (การ 13 ธิการ 13 ธิการ (การ 13 ธิการ 13 ธิการ (การ 14 ธิการ 13 ธิการ (การ 14 ธิการ 14 14 ธิการ 14 ธิการ 14 ธิการ (การ 14 ธิการ 14 ธิการ 14 ธิการ 14 ธิการ 14 ธิการ (การ 14 ธิการ 14 
                                                      Detail:
         CCError CResourceManager::UpdateMemberInfo(CGMemberInfo*pMemberInfo)
                                //<TBD>
                               return CC_NOERROR:
         //Purpose:
          // Try to find a match member list from the context depository.
         //parameter:
                                                 pCount IN OUT. indicate a alloced memory block. If memory not enough, returnCC NOT ENOUGHT MEM. and make this to the size of memory should
                            ovistor.
                                                                                                                                                                                                                                                                                                                                   in paragraph dinsempth. The Transparent
        11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  . . . . .
                      alloc in byte.

DId OUT. if match successful. will contains the match result. a list of member id. if not match, no affect to this parameter.
       //Return
                         eturn:
CC NOERROR indicate match successful, and the result is in pld.
CC NOT ENOUGHT MEM indicate match successful and the memory provide is small? More to provide a process of the right size if in *Count

CC MATCH FAIL indicate no match member found.

Jacque introduces a new place of or helpholic life a life when reate Date: 06/25/97

Jacque introduces a new place of or helpholic life a life when reate Date: 06/25/97
       //
       //Create Date: 06/25/97
//Code Writer: Tom.Wang
                                                                                                                                                                                                                                                                                                      NINGER TO THE CUIT IS SUCCESS. PRESENCE THEN US FILE NAMES TO MAKE TO PROPER TO FILE NAMES TO MAKE TO PROPER TO PROPERTY TO PROPERTY
       //Modify Record:
// Modifier:
                                                 Date:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        revalo di
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        เล็มไปใช้ เมลิการก
กระทัศ (ค.ศ.)
                                                 Reason:
                                                 Detail:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            " (14
    CCError CResourceManager::IsThisVistorMatchAnyMember(
                         CCVistor* oVistor.
INT* oCount.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1075 54
                          CCMemberID* pld)

    Common Main and Common Common Common Common CAT (Legisland)

                          //<TBD>
                          return CC_NOERROR:
    Check the login information.
    //Parameter:
    // pData IN. a login information contains user id. user password.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      //Return:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CC NOERROR indicate that the member is a valid user, and can login.

CC EXPIRED USER indicate that the member is a valid user, abute form some median value of a reason is that the time we resource has run decame and a reason. It has expired, one reason is that the time we resource has run decame and a reason.
   11
// Our.
// CC INVALIDATE MEMBER ID indicate the user id is wrong.
// CC INVALIDATE PASSWORD indicate the password is wrongs. Id research subtract as a national and user is respectively and a call center will let user retype this information: The research subtract of the research in the
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อภิกาม สำ
อภิกาม
                                             Reason:
                                            Detail:
  CCError CResourceManager::MemberLogin(CCLogin* pData)
                      //<TRD>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contract action (1997)
                     return CC_NOERROR:
                                                                                                                                                                                                                                                                                                                                                                                                        The mercial is sourced to
                                                                                                                                                                                                                                                                                                                                           ~ 1705 AV
 //Purpose:
//Purbose:
// Get the detail member information from context depository.
              memberId. an valid member id.

memberInfo OUT. a CCMemberInfo struct alloced by callengiff this call also also accept names of successful, will contains the user detail information.
//Return:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               437
// CC NOERROR indicate that the member is a valid user; and detail informable and a second a 
// CC INVALIDATE USERID indicate the user id is wrong. pMemberInfo keep
                                          untoughed.
                                                                                                                                                                                                                                                                                                                                                                                                                             enterner Willer hat de grant bei gestigt im
//Create Date: 06/25/97
                                                                                                                                                                                                                                                                                                                                                                                                                A total like A total
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//Code Writer: Tom.Wang
  //Modify Record:
                                                   . د کتاب کا
  11
           Modifier:
                                                                                   )996ta
  11
           Date:
  //
            Reason:
  //
           Detail:
  CCError CResourceManager::GetMemberDetailInfo(
      CCMemberID memberId.
CCMemberInfo* pMemberInfo)
      //<TBD>
                                                  115511115
      return CC NOERROR:
                                                                                        }
 //help functions.
                                                                   STEELS TO A CO.
      Check if the given member is expired.
 //Parameter
                                                                     istica autoria en 1
     memberid, an valid member id.
 //Return:
                                                                 sem nodia i ali u esta si ŝtali da tili in
    Return:

CC MEMBER VALID indicate that the member is a valid user, and detail information has copy into phemberInfo.

CC MEMBER INVALIDATE ID indicate the member id is invalidate.

CC MEMBER EXPIRED indicate the member is expired.

CC MEMBER ACCOUNT FROZEN indicate the member's account is frozen, may be required by this member.
                                                                                  be required by this member.
 //Create Date: 06/25/97
//Code Writer: Tom.Wang
 //Modify Record:
           Modifier:
           Date:
           Reason:
           Detail:
 CCError CResourceManager::GetMemberStatus(INT memberId)
                                                                                    Netter of DayAccossTansPaget
     return CC_NOERROR:
 //page manager
 check if the given page is registed before, page info in pVisitorInfo.
 // DVisitorInfo. a visitor information. only use the page url in this call.
// DPageld. a page id point. alloced by caller, if successful, will contains
          the the page id.
 //Return:
// CC PAGE REGISTED indicate that the page is previou registed by tool program.

// CC PAGE NOT REGISTERED indicate the page is not registered.
          pPageId keep untoughed.
//Create Date: 06/25/97
//Code Writer: Tom.Wang
 //Modify Record:
          Modifier:
          Date:
//
//
          Reason:
11
          Detail:
CCError CResourceManager::IsPageRegistered(
CCVisitor* pVisitorInfo.
     CCPageID* pPageId)
     //<TBD>
     return CC_PAGE_REGISTED:
//page and member
//Purpose:
     to check if a special member can access a specail page.
//Parameter:
// memberld. a member id used to determine whether the page can be used by the
         member.
   pageld, a valid page id to check if can be used by the member.
//Return:
// CC PAGE CAN BE USED. means the page can be used by this member.
// CC PAGE NOT REGISTERED. the page not registered.
// CC_MEMBER_INVALIDATE_ID. the member is invalidate.
//Create Date: 06/25/97
//Code Writer: Tom.Wang
//Modify Record:
                                  F - 1
         Modifier:
         Date:
```

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१६४५:७८१:१८^{६६ व}ष्ट्रश्री १८ । १०११ म्यास्ट स्ट १६४४ की १९ १०८८ १८६४: १९६४ - १०११ मा १८६४ १९६४: १९४४: १८८४

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11
                                Reason:
     //
                                Detail:
                                                                                                                                                                                                                                                            z3
    CCError CResourceManager::CanThisMemberUseThePage(
CCMemberID memberId.
                  CCPageID pageID)
                  //<TBD>
                 return CC_PAGE_CAN_BE_USED:
                                                                                                                                                                                                                                                              atolic arm music
    //page and member.
   //Purpose:
                To get member list that can access or want to access this page.
   //Parameter:
           pageld. a valid page id to check if can be accessed by the other member occurt. a point to int. will contains the success result simember count. if not enough memory, will contains the size, and return CC NOT ENOUGHT MEM
              DMemberId. a member id list to contains the success result.
   //Return:
              eturn:
CC MATCH SUCCESS, means the matho operate successful, match result is save to nMemberid.

Memberid.

Memberid.
  //
             DMemberid.

CC NOT ENOUGHT MEM. means the alloced memory is not enough, the right size is in DCount.

CC DAGE NOT PEGISTERED the page not registered.
             in DCOunt.
CC PAGE NOT REGISTERED. the Dage not registered.
CC_MATCH_FAILED. match failed.
                                                                                                                                                      7.70 Test
                                                                                                                                                                                                        is the base of the telef
 //Create Date: 06/25/97
//Code Writer: Tom.Wang
 //Modify Record:
// Modifier:
                           Date:
 //
//
                           Reason:
                           Detail:
CCError CResourceManager::MembersCanAccessThisPage(
                                                                                                                                                                                                                              Commence (Resource the person of the property of the manager of the manager of the contract of
             CCPageID pageID.
UINT* pCount.
             CCMemberID* pMemberId)
ŧ
             //<TBD>
            return CC_NOERROR:
```

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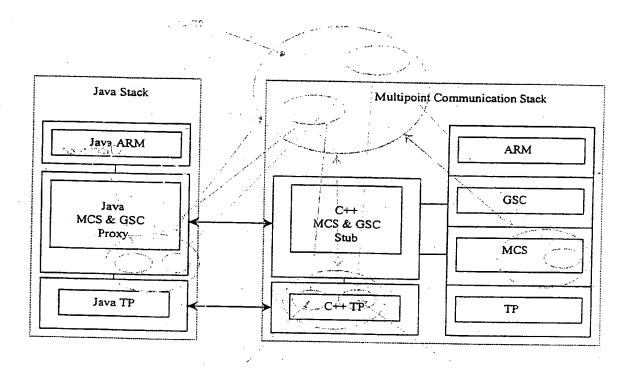
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STELLAR Context Conferencing

1. Architecture



Gommunication Stack Architecture

TP MCS Transport and war of Multipoint Communication (San

GSC :

Multipoint Communication Service General Session Control

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Application Resource Manager

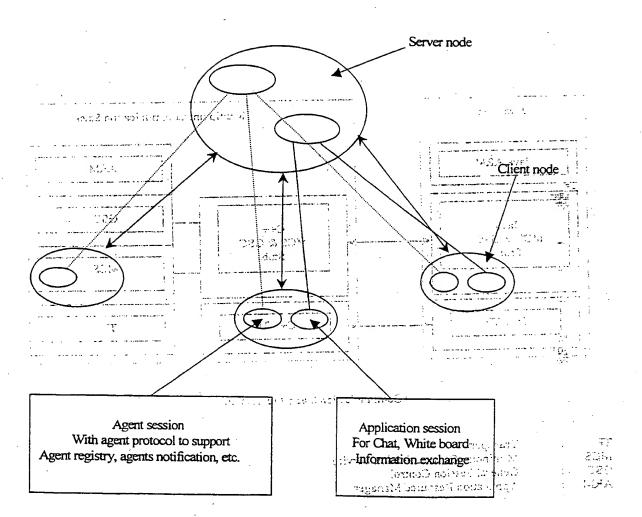
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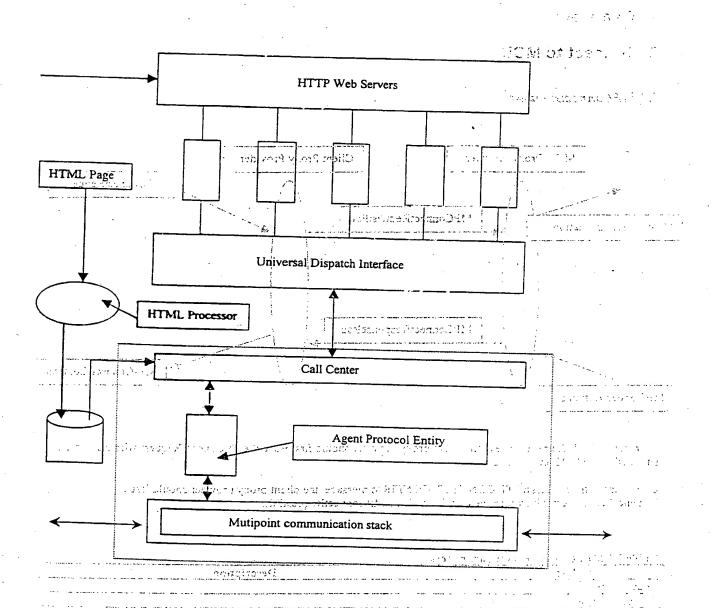
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Typical running topology

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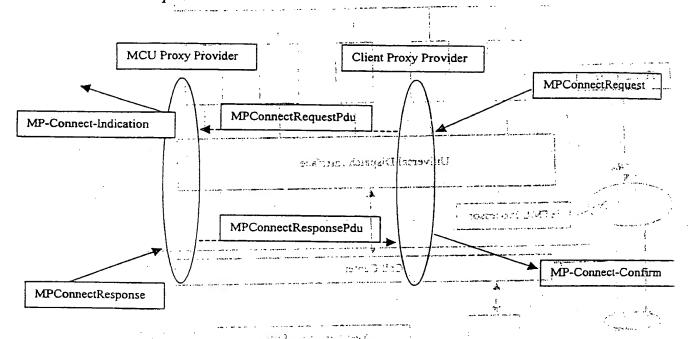
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MCU Proxy Protocol

- 1. Overview
- 2. Connect to MCU
- 2.1 MPConnectRequest



On receipt of MPConnectRequest, the client proxy provider should first issue the TPConnectRequest with the address supplied in the MPConnectRequest.

On receipt of the successful TP-CONNECT-CONFIRM message, the client proxy provider should issue TPSendDataRequest with which the data field filled MPConnectRequestPdu.

Table 2.1 MPConnectRequest parameters

Table 2.1 MF ConnectRequest parameters	and compared to the contract of the company of the manufacture of the contract
Name Name	Description
Local address	
Remote address	
MCU domain name	
Connection Handle	
User Data	

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Tal	ble	2.2	MP-	Conne	ect-Re	anest.	Pd.

Contents	Source 40 -42	
Local address		- Sink
Remote address	510000	The second secon
MCU domain name		
User Data		A CASTVANT PAGE ST
The same of the sa		by the second distribution of the second sec

On receipt of a TP-DATA-INDICATION message, the proxy provider should decode the message first, if it is a MPConnectRequestPdu, it should issue the MP-CONNECT-INDICATION message with the parameters filled from the data in MPConnectRequestPdu.

Table 2.3 MPConnectIndication parameters

Name	
Local address	Description
Remote address	The state of the s
MCU domain name	22342747 323 No. 2003
Connection Handle	
User Data	200 年800 (100 · 1
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	is the constituent of the constituent and the

2.2 MPConnectResponse

Table 2.4 MPConnectResponse parameters

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	Reguerre	Y Sharrel Diroum

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N. State of the st	
Name Connection Handle	Description T
MCU domain name Result	New Mark Control Control
User Data	the control of the control of the

Table 2.5 MP-Connect-Response-Pdu

Contents		
MCU domain name	Source	Sink
Result	· · · · · · · · · · · · · · · · · · ·	Control of the contro
User Data		\$4000 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
000.000		

Table 2.6 MPConnectConfirm parameters

No.	
Name Description	
Result	
User Data	

2.3 MPDisconnectRequest

Table 2.7 MPDisconnectRequest parameters

N-	
Name Connection Handle	Description with the second second second
Reason	(28) (4) (4) (4) (4) (4) (4) (4)
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- Contents	Source		Si	n k	
Reason		1			
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able 2.9 MPDisconnectIndication parameters					
Name		Description	1		
Connection Handle					
Reason	< ត ការពេ ជ្ ារជា ១ភ្នំ	(SSBB 4.)			<u> </u>
programme and the second section of the second section is	CONNECT NOW	ELIM BULL A D	· · · · · · · · · · · · · · · · · · ·	· 6"	
			4		
3. MCS Proxy		essen essen	ويتورون ويتورين		
and the same of th		5.05.000 x 67.71 0	And the second		
3.1 MCSRegisterUserApplication			,, ,		To the second
3.2 MCSCleanup	and the second second second second second			785,3300	
3.3 -MCSAttachUserRequest	age representation and the state of the stat			חיינות מוני	7.1.27
A MCCOLLEGICATION	management of the same to the beautypowers.	e		bash or	
.4 MCSChannelJoinRequest		ومنتصب سرأت بسووتسون بسيد		. ۱۰۰ مصد مصد مدد سرد بدر سرد بدر د د	77 mg 20.
.5 MCSChannelLeaveRequest			والمعالم الواد الكال موها والمعاد مواورهم فالمورود		
3.6 MCSChannelConveneRequest		•			,
3.7 MCSChannelAdmitRequest			sanogra At		
3.8 MCSChannelDisbandRequest			in the court of the	-•,	
.9 MCSChannelExpelRequest	•	Control for the self-of-market	or og avilano	59 Train	1 14 1
.10 MCSSendDataRequest	annan ann a baran bair tainne, an agus ann agus ann a dhear an t	2, 173, 2153 S. C. C.			
.11 - MCSTokenGrabRequest	t maggine in march of the statement and a statement of the statement of th			bered va	isomer .
.12 MCSTokenInhibitRequest	The second secon			er sens	
.13 MCSTokenPleaseReauest	AND DESCRIPTION OF THE PARTY AND ADDRESS OF A PARTY.				
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.14 MCSTokenGiveRequest	the transfer was a second important which is a		inglianti esse se incluente altera se graphite		
.15 MCSTokenGiveResponse		55/9-5	ипопы <mark>Янич</mark> и		Plus
.16 MCSTokenReleaseRequest	923562	*	V Va	3057	ej Lejen Zimi
.17 MCSTokenTestRequest	and the second second				
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2 GCCCleanup			whaps Are	Geografia	44 [2]
.3 GCCCreateSap			45 T43 54 F F F	The second secon	
.4 GCCDeleteSap		•			n 7 - 40
F CCCCF			12922772 1797 1		
.6 GCCApplicationEnrollRequest .7 GCCApplicationInvokeRequest .8 GCCApplicationRosterInquireRequest		eary production of the control of th		ماد المستندين أوالمادي مراجع المناز موجد ما أربي	سد د د برس این فروس
.7 GCCApplicationInvokeRequest	and the second section of the second section of the second				
.8 GCCApplicationRosterInquireRequest					دا دا مد

4.9 GCCRegistryAllocateHandleRequest

4.10 GCCRegistryAssignTokenRequest

4.11 GCCRegistryDeleteEntryRequest

4.12 GCCRegistryMonitorRequest
4.13 GCCRegistryRegisterChannelRequest

4.14 GCCRegistryRetrieveEntryRequest

4.15 GCCRegistrySetParameterRequest

4.16 GCCGetConferenceLocalNodeId

4.17 GCCGetConferenceTopNodeId

4.18 GCCGetConferenceSuperNodeId

4.19 GCCGetSessionInstanceNumber

4.20 GCCGetSessionInfo

4.21 GCCGetNodeInfo

4.22 GCCReadyRequest

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STELLAR Agent Framework

1. Overview

1.1 Agent

Agent is an executable object can travel over the underlying network. Global unique naming scheme

1.2 Agent framework

Agent framework is an abstract layer. It can enable the traveling, executing of the agents, sits on each node across the entire network.

A travel itinerary for specifying complex travel patterns with multiple destinations and automatic failure handling A white board mechanism allowing multiple agents to collaborate and share information asynchronously An agent message-passing scheme that supports loosely coupled asynchronous as well as synchronous peer to per communication between agents

A network agent class loader that allows an agent's Java byte code and state information to travel across the network, an execution context that provides agents with a uniform environment independent of the actual computer system on which they are executing.

1.3 Agent provider

Agent provider sits on each node, it participates the agent community, provides the running environment of the arriving or local agents.

Provides multiple services

Services can be retrieved from a server

Agent daemon

Running in every machine an agent will travel to.

Local native interface:

Local execution of a program(.exe)

Read/write local files

Retrieve/update/delete/add data form /to database.

Script language support

Install/uninstall OCX/COM objects for Windows

1.4 Agent provider protocol

Agent provider protocol is the language for which the agent providers use to talk.

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1.5 Agent provider session

Agent provider session is a runtime provider sociality which is hosted by the top agent provider.

1.6 Agent security

Agent proxy: a placeholder for an agent to control access to the agent

1.7 Agent repository

Place to save and manage all agents

1.8 MCU

MCU, Multi-point Communication Unit supplies a real-time multi-point connection service.

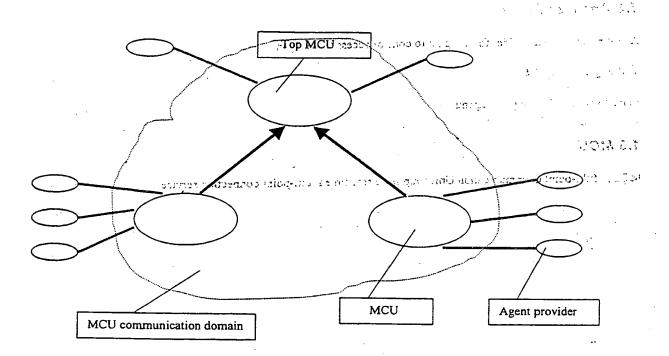
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2. Agent framework Protocol

2.1 Setup agent community



2.1.1 MCU communication domain

MCU communication domain is the backbone of the agent sociality, its creation is beyond of this document.

2.1.2 Bind to MCU communication domain

An agent provider should first bind to the MCU communication domain, then can it start its agent service.

2.1.2.1 BindRequest

On receipt of BindRequest primitive, the agent provider should issues a MPConnectRequest to the MCU with the user data field of MPConnectRequest filled with BindRequestPdu.

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Table 2.1 Bind-Request-Pdu

Contents		A CALL CALL AND A CALL CALL CALL CALL CALL CALL CALL C
	Source	Sink
Agent provider name	Request(M)	Indication(M)
Agent provider password	Request(O)	
User Data		Indication(C)
	Request(O)	Indication(C)

On receipt of MPConnectIndication, the agent provider should decode the BindRequestPdu in the user data-field and issues BindIndication primitive with following parameters

Table 2.2 Bind-Indication parameters

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Name	Description replanted tage \ \ \text{O} \ \text{O} \ \text{O} \ \text{O} \ \ \text{O} \ \text{O} \ \ \text{O} \ \ \text{O} \ \ \text{O} \ \text{O} \ \ \text{O} \
Agent provider name	Agent name which issues the connect request, this name is locally unique in The indication node
Agent provider password	The logon password for the provided name
Bind handle	Handle for identifying the bound connection
	noise teles to the same of

2.1.2.2 BindResponse

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Table 2.3 BindResponse parameters

	parameters	
D: 11	Name	Description
Bind handle		Handle for identifying the bound connection
Result		Specifies whether the request is successful

On receipt of BindResponse, the agent provider should issues a MPConnectResponse primitive with the user data field filled with BindResponsePdu

Table 2.4 Bind-Response-Pdu

Contact		
Contents	Source	Sink
Result	Response(M)	Confirm(M)
User Data	Response(O)	Confirm(C)

Table 2.5 BindConfirm parameters

Name	Description
Bind handle	Handle for the bound connection
	Specifies whether the request is successful

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2.1.2.3 UnbindRequest

Table 2.6 UnbindRequest parameter Name	Description	1
Bind handle	Handle for the bound connection -	
Reason	१८ मध्यान्य है।	
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The state of the s	C. 2. 05.4	3114
Table 2.7 Bind-Response-Pdu		
Contents	Literature with Source of the same	Sink
Reason	(तही संस्कृति दुवासकार)	
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2.2 Agent provider sessio	מס	2016 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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2.5 Agent Provider primitives		The second secon
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Agent Server Design Agent profile a globally unique naming scheme for agents 1400 s provider to Agent server wire protocol 19. 33 1931 364 7. 1438 1. 1 17 1 Currently, it uses T.120 ARM interface, but can be replaced with another wire protocol(e.g. TCOP/IP, HTTP or IPX/SPX). wit bein the transfer Agent communication protocol ार प्रतिप्र**राष्ट्र** र जार के प्रवास १८८७ के जाता है है है है। को जाता । के अनुश्चे के अमें भारत में जी पात है जो पात है है है है है है जाता है के अपने कार्य के पात है है है DispatchAgent The state of the s RetractAgent PutAgentData QueryAgentStatus Agent local service provider: Provide multiple services, was more and the not offered on the course of the services and the course of the provider Services can be retrieved from a server i and about a sign of the server is a server in the server and the server is a server in the server in Running in every machine an agent will travel to.
cal services: Agent local services: Agent execution failure handling and recovery(Agent persistence support) Local native interface: local execution of a program(.exe) read/write local files Retrieve/update/delete/add data from/to database. script language support install/uninstall OCX/COM objects for Windows Agent application protocol Call Center Application Protocol Agent security Agent proxy: a placeholder for an agent to control access to the agent Agent infrastructure a travel itinerary for specifying complex travel patterns with multiple destinations and automatic failure handling, a white board mechanism allowing multiple agents to collaborate and share information asynchronously, an agent message-passing scheme that supports loosely coupled asynchronous as well as synchronous peer-to-peer communication between agents, a network agent class loader that allows an agent's Java byte code and state information to travel across the network, an execution context that provides agents with a uniform environment independent of the actual computer system on which they are executing. Agent Author: Agent authoring tool Agent Repository: Place to save and manage all agents Agent script language

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Agent service provider for Windows platform:

The agent service provider in Windows platform is a COM server which supports multiple agent COM interface aggregation and agent retrieval from an agent server. An agent service user(either an agent or a local application with a COM interface) can query agent services from the provider. The provider will query all the local registered agents to get all of their interfaces and aggregated through it. An agent service in Windows platform is a COM interface.

When an agent user queries a specific agent service(e.g. read from a specific database), the provider will query all the local registered agent services and find out if there is one with that service. If there is one available, it will provider to the user that interface and manages reference counts for interfaces. If there in no service(COM interface) available, it will provide a callback, then go ahead to request that server from agent servers. If the service is available from a server, the agent is downloaded and it calls back the user for that service. Otherwise, it notifies the user that the service is not available.

All the agents downloaded from servers are registered locally for all the interfaces available. The provider controls memory/disk usage, too. If the usage exceeds the limit, it will automatically delete least used agents until the usage is below the limit. All the services for deleted agents are unregistered. When a user requests a service not locally available, it will request from an agent server. When it gets the service, it downloads that service, saves it locally and registers its services. was the sail town!

रत कारण्याः कारकाशोहाराच्या विवासके त्या 👉 १ वर्गाः पुर्वितास्य अध्यक्षी स्वाराध्यक्षात्रः । राष्ट्रके tousties a evited 12001

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unstall ununstall OCX/OCM objects for Windows

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Agent communication protocol GetAgentRequest: a provider to get an agent service from a server Indication Response Confirm PutAgentDataRequest: a provider to put data back from an agent execution provider himselfs. Confirm DispatchAgentRequest: a server to dispatch an agent to a provider n nekuluaispira ino, Historia and and Indication Confirm La distribution de Contraction de Co RetractAgentRequest: a server to retract an agent from a provider Light and the 100 5 100 Indication Confirm 130.87 730.14 QueryAgentStatusRequest: a server to query for the status of an agent . . . 352161755 ne proBotto vei Indication mit igenem stil ich Response หม่าเรามากอล์เราวิ Confirm Galeonic & Albertina Scenarios: tendinematerakura i nerit managetta for carl QD: Create an agent with AgentAuthor วอสวะสิทันธอ Specify agent activity mandi i Sessi ii COM interface to a QD program(e.g. Fix-It) arraien ad To - ssion Gather information/system data acteons when (e.g. memory, disk space, hardware/software, registry) Appinger(Taux. Thank t Run a program illimuşarsın cere 🦂 Run a script block su untradission ed Specify an itinerary Dispatch the agent Long an interest Report result and update database ร... รพก มีสารกั Genie(animation, speech recognition, text to speech) support S3: anti-unuser Mark at C ignamme Little Golden in et al.

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Call Center Module Interface Design (1996) 1999 12 1899 Listener to Call Center Interface: Listener Management GetListenerList ा राज्य के प्राप्ति वाला GetDetailListenerInfo ... RegisterListener UnregisterListener grand displace of additional the Session Management GetSessionList GetDetailSessionInfo .. thunais as county. JoinSession LeaveSession TransferSession र वस्ता व वस्तरम्य का कृतस्ता किम स्वय व्यवस्थात वर अस बहुब क्ष InviteToSession Resource management GetResourceList

GetDetailResourceInfo Call Center To Listener Interface: .

Session Management

StartSession InvitedToSession TransferredToSession

FinishSession

Resource To Call Center Interface: (அம்முற்ற அம்முற்ற மேல் மாளி அம்மு க்கிய அமையாக அடி resource management

RegisterResource UnregisterResource

GetResourceList GetDetailResourceInfo

Guest To Call Center Interface:

Session Management ActivateResource JoinSession

LeaveSession

Call Center To Guest Interface:

Session Management StartSession

FinishSession

Call Center To Database Interface: SaveResource

UpdateResource DeleteResource LoadResource

SaveListenerList

LoadListenerList

Call Center To Agent Server Interface:

Register Agent Sap Unregister Agent Sap RegisterAgent UnregisterAgent

SendAgentMessage

Agent Server To Call Center Interface: ReceiveAgentMessage

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Objects:

AgentServerInterface DatabaseMgr

CallCenterApplicationProtocol
GetListenerList
GetDetailListenerInfo

GetDetailListenerInfo RegisterListener UnregisterListener

GetSessionList GetDetailSessionInfo JoinSession

LeaveSession

TransferSession
InviteToSession
GetResourceList

GetDetailResourceInfo

StartSession

FinishSession

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AgentServerInterface agent

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ListenerList now nouszgern

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ResourceListers of assect

ParticipantList

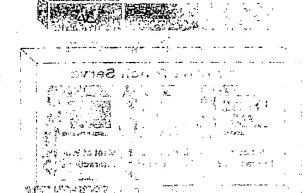
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Listener inherited from Participant
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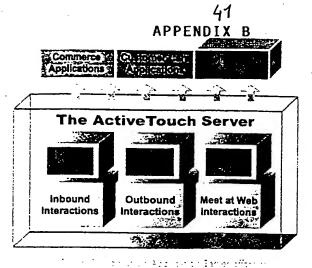
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The Not valuable Server enables. Web splutions deling and to deliver a new gives of enterprise sessably on behalfs besided is the common der beimedice improve worden allebisen er berb effectiveness and addividua to the cortain re-neg modabilieurs intivernida individit ien --รอบาท กระบัส หนึ่งสู่สัดสาร์สดอา เมลิตตา กระบั anunth e personal celo tive el el eme e e राज वारता है जिल्हा जिल्हा है सामेर प्राप्त कार्य ลู้เริ่น กลาง เอกตอนการ คามมาระโรโรม และระโรเ Pranstansialina Fig. 1 at IAR 128 1 175 tons 2 ft. ing the englishment of the first of the anomacional no traditivo de servol de n.C. Co ∹ರಾಜಿಗಳು ಚಿತ್ರಗಳ ಕ್ರಾಮಿಸಿದ ಕಿಳಿ विकास के के दूरी जनकर जा है। एक उनके उनके उनके Paramed section with the expension about possioned parts smoothers will an only literature. and them, we stoke thought the continues adouted system agreements are to a kind of TOWARD BY WITHOUT IN A POST OF THE เสอใหญ่สามสายเกลา เก التفاقلا فارتبع الإراميهان un i sur un un mourat é la sur l'éguntité NAME TO A BORD ON A JUNE OF THE PARTY OF THE

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"The Three Cs" of

Collaborative Computing

The ActiveTouch Server enables Web solutions developers to deliver a new class of enterprise computing: Web-based shared workspaces that dramatically improve communication effectiveness and add value to the bottom line. Our collaboration application server offers robust functionality for all the critical enterprise interactions: inbound, outbound, and meet-at-Web. With a feature-rich toolkit offering collaborative application assembly, the server enables the 3 C's of Collaborative Computing Applications: Commerce,

The ActiveTouch Server and its application toolkit redefines the meaning of virtual interactivity: A click of a button brings all parties together via phone and browser. Within the ActiveTouch system, users can instantly and securely access corporate databases and intranets, run software demos, review billing information, resolve technical issues, or provide real-time customer service and support. Conferencing users can jointly view the same pages on a site, review and annotate the same documents, concurrently plan group-project tasks, and save and print collaboratively changed documents.

ActiveTouch Server Exposed

ARCHITECTURAL

· Scalability and Customization

Comprehensive Security

T.120, ODBC, Encryption)

High PerformanceFault Tolerant

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Tight Integration of Data and Telephony
 Full Web Integration via HTTP tunneling

· Open Standards (HTTP, TSAPI, LDAP,

ActiveTouch Server applications are browser-independent and require no manual client-side installation. Their easy deployment across an enterprise network (and smooth integration with third-party front office and call-center applications) belies the server's power. The server is comprised of five core components: Distributed Data Collaboration Services, Distributed Telephony Services, Automatic Workflow Distribution Services, Threaded Messaging Services, and Session Manager. In addition, the Web Client Services supports the browser-independent components used for building client applications.

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These five core components can be assembled independently or collectively to create customized collaborative applications. Each server component can be distributed across separate machines or all run on the same machine. The core components have considerable strengths:

Collaboration Services provide the core data services for sharing and annotating text, images, applications and Web pages using advanced HTTP tunneling. Based on a T.120 protocol-compatible stack, the Collaboration Server supports the ActiveTouch browser client as well as Microsoft NetMeeting. It also includes the MultiServer coupling system that provides tight clustering for scalability and fault tolerance.

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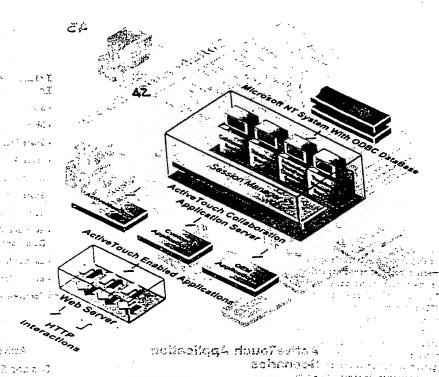
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Distributed Telephony Services enable complete, browser-controlled telephony functions such as teleconferences, invite, forward, and meet me service, in addition to PBX integration. The telephony server can be remotely located from the rest of the ActiveTouch. Server to allow for telephone connections to be placed from appropriate remote locations. Automatic Workflow Distribution Services provide intelligent call and data routing for sales, and support applications and has an Applications. The server provides Automated Call Distribution (ACD) functionality for Web-initiated calls.

Threaded Message Services allow website visitors to drop off messages in lieu of live voice interactions. For example, website visitors can drop off messages for particular consultants (or a category of consultants) on websites.

Session Manager provides conference setup, resource allocation, and multi-tiered security and encryption. Enterprise integration API's allow data sessions to be tightly integrated with enterprise business objects (e.g., PO's, change orders) and directories as well as providing direct access to databases through an ODBC interface.

Other key features include:

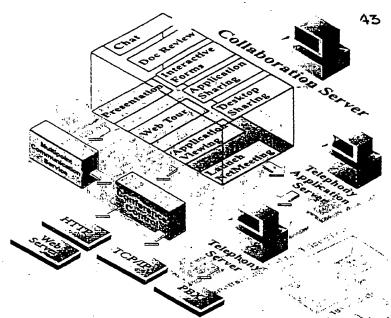
Web Client Manager supports the browserindependent toolkit for building collaborative applications.

Administration Module allows real-time monitoring of live sessions and account management, useful for customer care services.

Optional Billing Module tracks real-time connections and drop-off messages for billing purposes and provides the ability to integrate with existing billing systems.

ACTIVETOUCH SERVER FOUNDATION

 Live Data Collaboration Application Server for Real-Time Commerce, Customer Care and Conferencing
 Industrial-Strength CTI and T.120 Services over HTTP
 Built for Enterprise and Service Class Applications
 Secure, Scalable, Robust and Reliable
 Browser Ease of Use and Familianty —



ActiveTouch Application **Scenarios**

network services and the power of its synchronous and asynchronous information exchange invited milestones together with customers from can bring significant and cost-effective Lagre benefits for all kinds of enterprise activities. The case study and scenarios below illustrate a and the how the server can be used to-leverage your reducing the travel time and cost for its cont existing Web-based infrastructure and holistically manage enterprise resources! 4 345

ActiveTouch Connects Baan Consultants to a nocesse Support All Sides of the Globe

Baan, one of the world's leading providers of scalable Enterprise Resource Planning (ERP) software solutions, adopted the ActiveTouch allas Server for use in the company's Cyber Consulting and service. The Cyber Consult strategy created ania good Internet gateway for customers to electronical-

Baan Cyber Consult Center Baan

ly access the expertise of Baan consultants, 50 via the ActiveTouch Server: ActiveTouch allows customer pro ject managers to instantly connect with

highly qualified Baan Cyber Consult professionals available on the Web and by phone.

- Schedule and Manage Web-based Meetings
- · Share, Edit, Annotate and Save Documents
- · Share Presentations and Collectively Tour the Web
- Share Applications and Software Demonstrations
- Desktop Sharing and Remote Control
- Share Whiteboards
- Complete Interactive Forms
- Swift and Complete-Screen Synchronizations for all Data Transmissions
- Launch Microsoft NetMeeting as a server session
- Billing Option for Phone Sales and Support
- Complete Integration with Corporate DBMS's via ODBC

ActiveTouch Server features such as Desktop Sharing allow Baan Cyber Consult The ActiveTouch Server's robust set of 2 mericans is professionals to configure ERP systems directanywhere in the world: Cyber Consult is: helping Baan differentiate itself in the highly competitive enterprise software market by sultants, while increasing the amount of time they spend working with customers.

Some Typical Applications of the ActiveTouch Server

The scenarios below illustrate a small portion of the server's power. The Active Touch Server. can be easily customized for all of the applications below and for many more it's a true platform for the widest range of Web based. interactive applications.

Streamline Sales: A salesperson uses an, ActiveTouch application to give a customized presentation to a prospective customer over the Web. The prospect asks if his technical person at another location cangoin the meeting, and he is quickly connected.

As the salesperson demonstrates the product, the prospect and technician ask a questions. To answer the technician's ques-

THE ACTIVETOUCH WEB COLLABORATION ENVIRONMENT

- Completely browser-based for users and administrators
- · Requires no manual client installation or complex user configuration

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Very easy tollearn and use - - - dsq4

tions, she calls up a data sheet outlining the technical specifications. The salesperson then directs a Web-tour of the competitor's Website to demonstrate that their product is not comparable.

Asked about the price of the product, the sales person opens a spreadsheet outlining pricing options. When the prospect decides to list comes across a problem outside of his purchase the product, the salesperson helps conhig complete a form on the Web to complete - 120006

Improve Channel Management: A global enterprise sales force travels frequently and and against a tight deadline, a designer is able to works in disparate locations. Communication often required multiple phone calls and e-mail messages to different people – a situation that seldom provided satisfactory support and did not allow management to measure how distributors were being served?"

With ActiveMeetings - a customized conferencing application built on the ActiveTough Server - the business united initiated regular distributor conferences to keep them up-to-date on new developments Distributors now go to a single location on the Internet and check who is available in a particular department, and then connect to that person. If the person is unavailable, the distributor can leave a message and anyone in that group will be able to follow-up.

Enhance Customer Support: A customer has software problem. Instead of explaining a solution or trading messages by e-mail or over a chat line, the specialist uses the ActiveTouch :: Server to view the customer's screen and identify the trouble. Using the ActiveTouch

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- Compatible with most firewalls and proxy servers
- Seamless and integrated PSTN compatibility for reliable and familiar audio service
- Robust, reliable and scalable server-centric; services data collaboration
- Easy integration with call centers and range of enterprise applications

desktop-sharing capability, the specialist takes control of the customer system and fixes the problem on the spot.

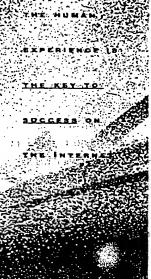
He refers the customer to an electronic copy of the manual and points out relevant information that could circumvent the same problem occurring in the future. If the specialarea of expertise he draws upon the expertise of a colleague in another location using the ு நார்கள் மக்க server's one-to-many conference-call feature.

> Maximize Consulting Services: Running get feedback from several reviewers working in different parts of the country. When the concepts are ready, he uses the ActiveTouch Server to see if the project lead is available, without worrying about where the lead is working at the moment. If available, the ActiveTouch Server connects them. The designer shows the designs to the lead online. who indicates what she would like changed. When the suggestions are incorporated, the lead invites the manager to see the designs. Minor changes are made and the final design is approved.

Those are just a few of the capabilities provided by the ActiveTouch Server. All kinds of potential data-collaboration applications are possible, such as supply chain management, corporate training, telemedicine, distance learning, and countless others. Truly, sharing information on an internal website or the Internet is as easy as clicking a button - but the enterprise implications are profound.

ACTIVE TOUCH







T.120 PROTOCOL CAPABILITIES

The ActiveTouch server exploits the capabilities of $n>0.5^\circ$ in T.120, a suite of networking protocols established by the International Telecommunications Union between 1993 and 1995 for multipoint data communications. multicasting, and application sharing. T.120 is rapidly gaining support on the Web as a set of industry stan-office dards for implementing real-time multimedia conferencing environments.

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The T.120 data-conferencing services in the 25.33 31833200 ActiveTouch Server support both TCP/IP clients such as NetMeeting and the HTTP-based ActiveTouch client. aria * ·

With a public key infrastructure as a foundation, the ActiveTouch Server delivers consistent security across the server and its components developed for Web servers and browsers. The Active Touch Server offers unsurpassed access-control granularity for data collaboration oration, from initial access into a server for hosts, joiningainmenting, and unlisting and locking a meeting, to protecting individual documents and applications being shared.

SECURITY FEATURES: DOS HEMPINS (DIEVSID BONG) ass

- User, password protection, 2017 of parties 1700 1700 1700 17
- Session password and predefined key-entry
 Unlisted sessions 1807-9 to 8 163 8 164
- · Unlisted sessions
- Session lock and unlock functions
- Secure Socket Layer (SSL) supported server
- Public/private key-based encryption (1991) 37 (1997) 2097

WEB INTEGRATION

- Browser_access to all functionality through $g_{ij} = g_{ij} g_{ij} + g_{ij}$ HTML/Plug-in interfaces
- Consistent functionality and UI between Netscape 118 and Microsoft Explorer browsers
- · Comprehensive HTTP protocol support
- * Firewall and proxy-server friendly: . access 2000 a
- Customizable UI through script-driven interface

PERFORMANCE

- Capable of supporting tens of thousands of simulta-
- Collaboration data compression
- NT kernel-level integration
- · Vector-based shared documents ~ 100 (1994)
- All servers can run on separate machines

ENTERPRISE SOFTWARE COMPATIBLE

- Architected for Enterprise Business Process integration
- **Business object-based routing**
- Business object sharing within sessions
- Archiving and retrieval of sessions into enterprise software applications ្រុកម្មវត្តនៅកាច់នាហើត

ADVANCED TELEPHONY AND WORKFLOWS COM FEATURES:

- Customizable rules-based connection-routing, call-back, and call forwarding
- Connection waiting and conferencing connections,
- Multi-user/multi-session with many-to-many connections, and dynamic join and follow
- Manages the availability of call center associates
- TAPI/TSAPI interface to PBX
- Supports PSTN/ISDN/T1 interfaces



BROWSER COMPONENTS

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The ActiveTouch Server delivers its full communications functionality to conferencing clients/attendees by downloading small ActiveX controls or Netscape plugins to the client machine, dependent on configuration. Many ActiveTouch features are also capable of being delivered via pure html interfaces. The server performs any necessary dynamic versioning control (including all driver support) quickly and transparently for subsequent sessions. HTTP tunneling provides compatibility between the browser components and most firewall and proxy-server configurations, making the ActiveTouch Server the most universally accessible collaboration solution on the market!

ACTIVETOUCH INSTALLATION AND SUPPORT

The ActiveTouch Server can be installed at your corporate site or nosted as an outsourced service by Active Touch. We will provide prepackaged embeddable logic for Web pages, which allows easy incorporation of ActiveTouch functionality into Web applications by other solutions providers and enterprise customers.

We also provide templates for different applications. allowing you to build customized versions through ும் எட்டு A மோவு கையி வொள்ளம் mental changes. Templates for customer support. sales, supplier chain, demand chain and consulting applications are available, as well, as server maintesmarke contracts. For information and pricing on all ActiveTouch products and services, please use the Contact information on this page.

A CONTRACTIVE TOUCH

or 'ActiveTouch' recognizes that today's information exchange must have a global reach. Cost-effective, reliable methods to transact commerce, conductingeeter 19 ings and share information:through a combination of Web, telephone and network technology will be ever The remove critical for business success. To that end, we have developed tools to transform the Web into a live, interactive environment for collaboration and commerce, for businesses of all kinds.

ActiveTouch sells its platform and solutions directly to corporations and organizations, as well as OEM's. ActiveTouch solutions enable our customers to stay neous voice and data connections soon a great stat of workcompetitive, provide better customer service, and attract and retain profitable customer relationships.

> To obtain information about licensing the Active Touch Server and using it to develop solutions, as well as other Active Touch products and services, please call us at (408) 732-8046 or visit our website at www.activetouch.com. We look forward to discussing the future of Communications with you.

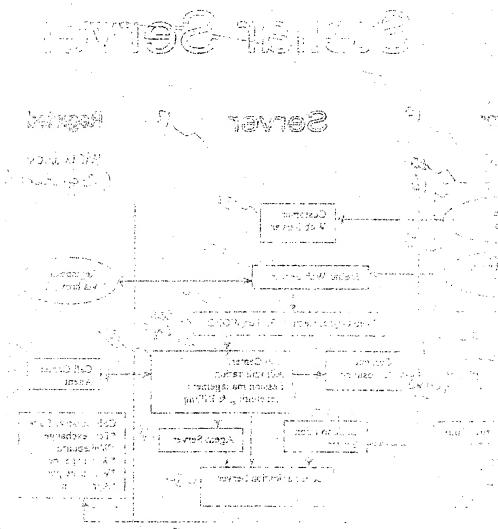
ActiveTouch, Inc. 1270 Oakmead Parkway, Ste. 301 Sunnyvale, CA 94086 Tel: (408) 732-8046 Fax: (408) 732-2048 E-mail: info@activetouch.coff http://www.activetouch.com/

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46 CLAIMS

- 1. A method for establishing a call center over the internet, comprising the steps of:
 - a) providing a clickable link on a web page serving as a request;
 - b) routing said request over the internet to a server;
- c) determining an available terminal for serving said request; and
 - d) linking said request with said available terminal.



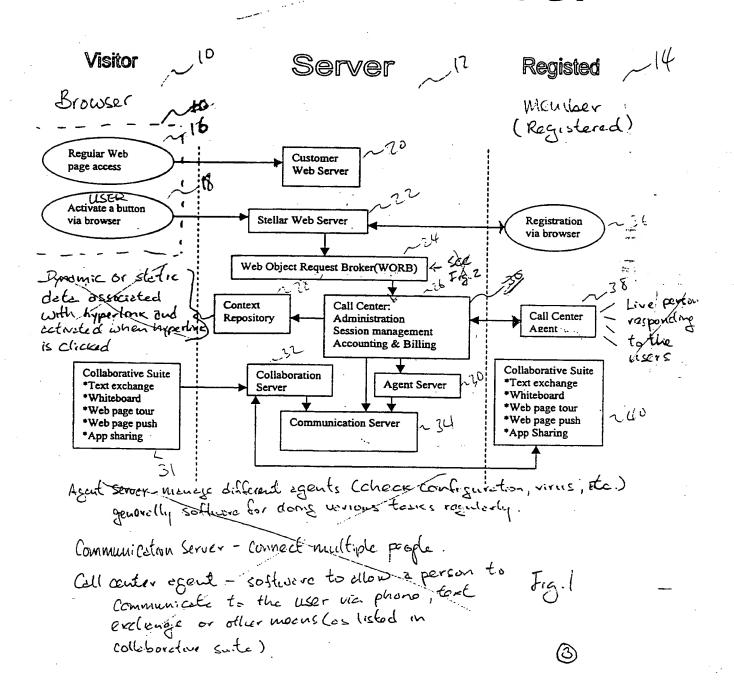
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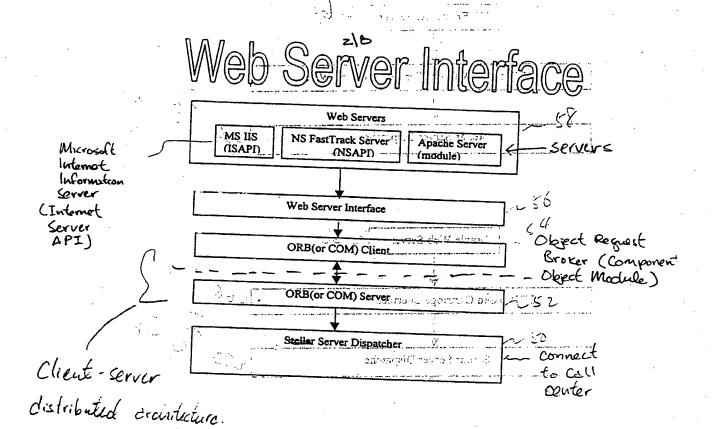
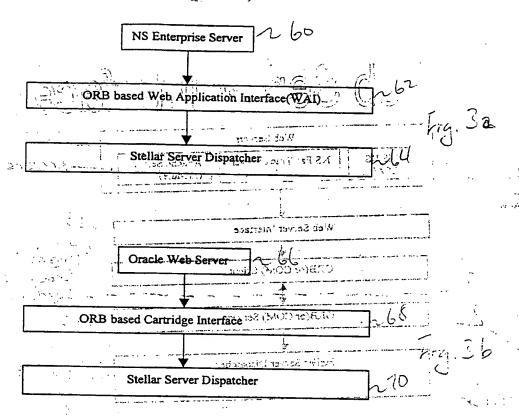
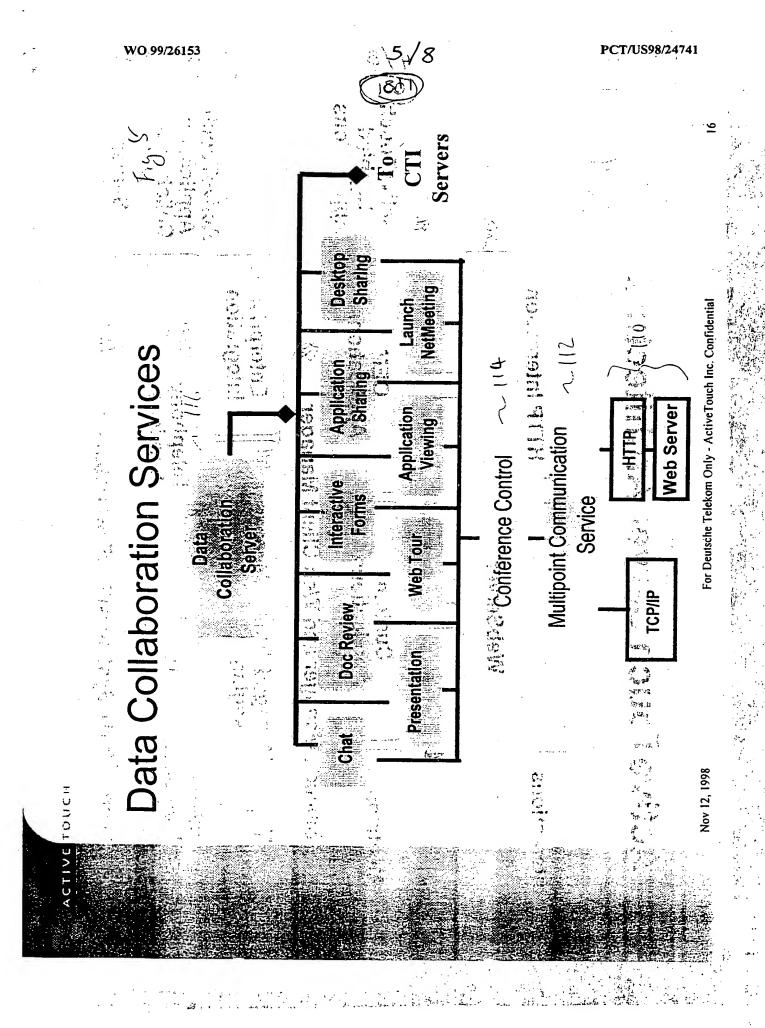
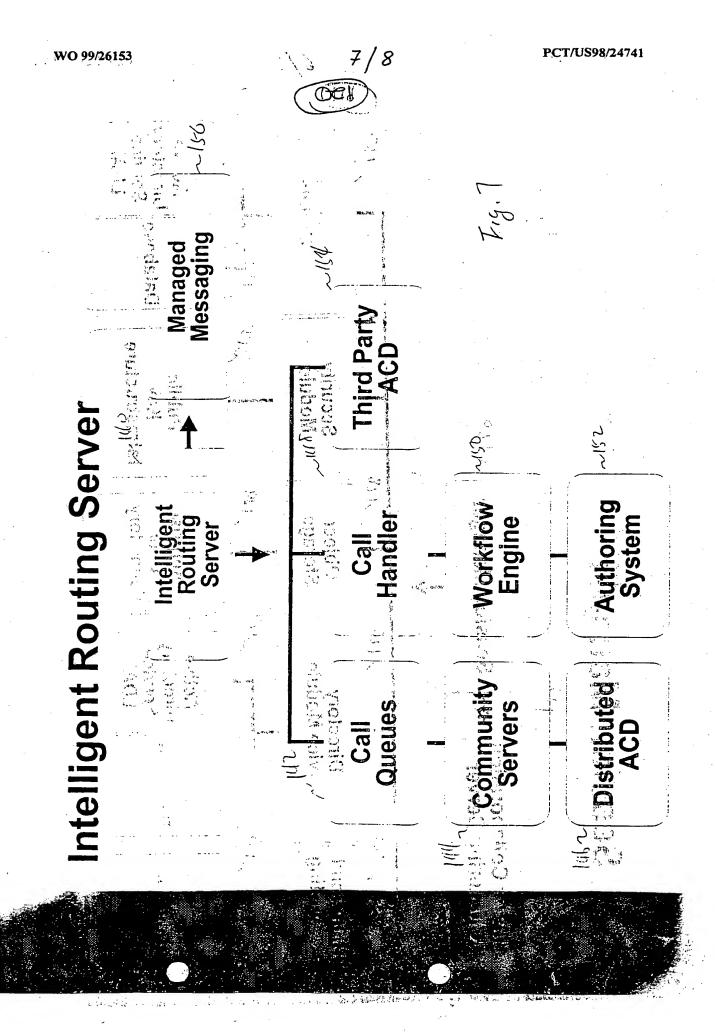


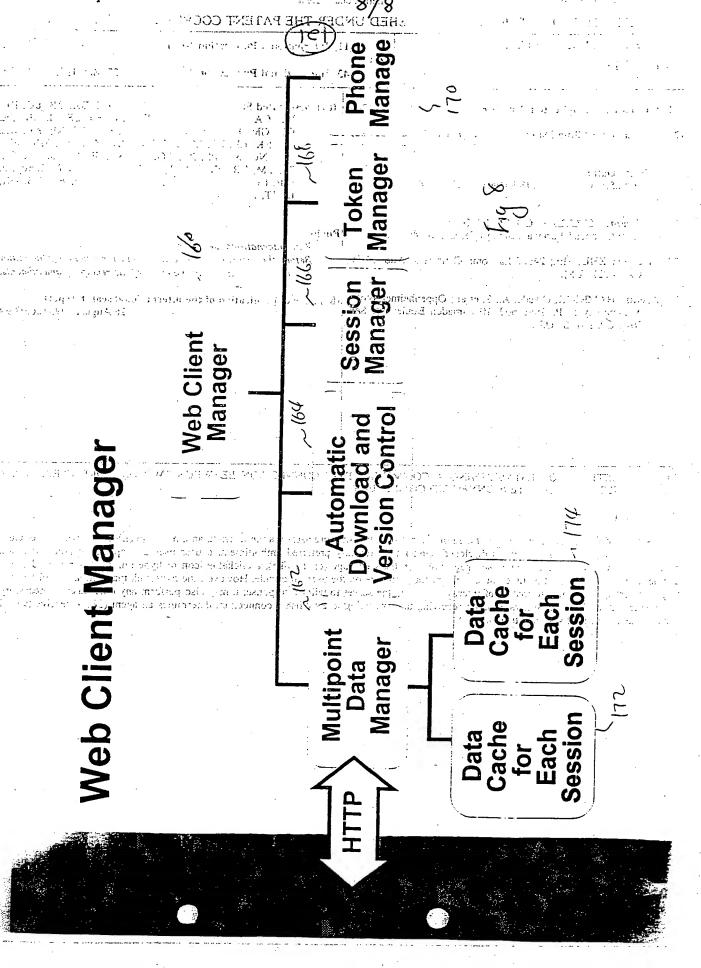
Fig. Z

Web Server Interrace











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(71) Applicant: STELLAR COMPUTING [US/US]; 1270 Oakmead Parkway, Sunnyvale, CA 94086	Suite 301, (US):	Published With International search report.
(72) Inventor: ZHU, Min; 24920 La Loma Court, Los CA 94022 (US).	Altos Hills;	Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.
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(54) Title: METHOD FOR ESTABLISHING A COMNETWORK OF INTERCONNECTED COM	IMUNICATI MPUTERS	ON CONNECTION BETWEEN TWO OR MORE USERS VIA A
(57) Abstract	The second of th	
real-time data conferencing system is disclosed. Under browser) (10) to retrieve and view a web page (16). Or another user or service. At this time, there is no custom to gather certain types of information of interest to pass	the present the web pa software on t to the server	more users via the Internet, and, more specifically, a web-server based y preferred embodiment, a user uses an application (such as a web ge (or the like), a clickable icon or hyperlink (18) is provided to call the user/caller side. However, the hyperlink may activate a subprogram to tailor a response; it may also perform any other tasks as necessary to establish a connection, determines an agent (38) to receive the call
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INTERNATIONAL SEARCH REPORT

International application No. PCT/US98/24741

IPC(6)	SSIFICATION OF SUBJECT MATTER :G06F 13/14 :709/219, 221, 223, 229		
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